

CONTENTS

<u>Schedule No.</u>	<u>Title</u>
IDIQ-I	IDIQ Contract Mark-up(s)
IDIQ-II	IDIQ Contract Project Finance Charges
IDIQ-III	IDIQ Contract Implementation Period Price Elements
IDIQ-IV	IDIQ Contract Implementation Period Mark-up Elements
IDIQ-V	IDIQ Contract Performance Period Price Elements
IDIQ-VI	IDIQ Contract Performance Period Mark-up Elements

SCHEDULE IDIQ-I

INDEFINITE DELIVERY/INDEFINITE QUANTITY CONTRACT CONTRACT MARK-UPS	
INDEFINITE DELIVERY / INDEFINITE QUANTITY CONTRACT	
TECHNOLOGY CATEGORY	MAXIMUM Mark-up %
Photovoltaic Modules	
Inverters	
Batteries	
Balance of PV System	
Boiler Improvements	
Chiller Improvements	
Building Automation Systems/Energy Management and Control Systems	
Heating, Ventilating, and Air Conditioning (not including boilers, chillers, and EMCS)	
Lighting Improvements	
Building Envelope Modifications	
Hot Water and Steam Distribution Systems	
Electric Motors	
Refrigeration	
Cogeneration Systems	
Renewable Energy Systems	
Electrical Distribution Systems	
Water and Sewage Systems	
Rate Reduction and Auditing Services	
Performance Period Services	

The mark-ups indicated in this contract schedule are the negotiated Maximum mark-ups which may be applied in price proposals for all delivery orders under the IDIQ contract during it's ordering period.

SCHEDULE IDIQ-II

INDEFINITE DELIVERY/INDEFINITE QUANTITY CONTRACT PROJECT FINANCE CHARGES INDEFINITE DELIVERY, INDEFINITE QUANTITY CONTRACT						
Financing Period	Treasury Note Index	< \$500K	\$500K - \$1M	\$1M - \$3M	\$3M - \$7M	\$7M+
0-3 years	3 year					
4-6 years	5 year					
7-10 years	10 year					
11-15 years	(specify index)					

Percentage rates provided are negotiated MAXIMUM, fixed, annual percentage rates that, when added to the current Treasury note rate (as defined by the source identified by the offeror below) is the total percentage project finance charge (not including finance processing fees) that the contractor will charge the Government as a total finance charge for all PV/ECM delivery order projects.

The finance charge rate that shall be included in the price proposal for an individual delivery order site proposal shall be based on the most recent applicable Treasury note rate prior to the date of the delivery order, per the source identified below. (The DO-III schedule for the specific delivery order proposal shall provide the dated source and index itself.) The actual finance charge rate used for the delivery order site award will be as negotiated at the time of award.

SOURCE OF TREASURY NOTE INDEX RATE: _____

SCHEDULE IDIQ-III

INDEFINITE DELIVERY/INDEFINITE QUANTITY CONTRACT IMPLEMENTATION PERIOD PRICE ELEMENTS

LISTED IMPLEMENTATION PERIOD PRICE ELEMENTS

[illegible]

Implementation Period Price Elements include the DIRECT costs of all tasks required to install PV/ECMs up to and including Government acceptance, such as feasibility studies, pre-installation measuring and monitoring of existing system or equipment energy use, design and engineering, purchase of equipment, labor to install PV/ECMs, commissioning, testing, startup, post-installation measurement of energy use to determine energy savings performance. Price elements on this schedule do not include any indirect costs such as overhead, financing costs, or profit. They shall remain unchanged during the ordering period of this contract, and be used for pricing delivery order implementation period project expenses identified on the DO-II schedule.

SCHEDULE IDIQ-IV

[illegible]

Implementation Period Mark-up Elements include all INDIRECT cost elements such as overhead and general & administrative expenses, profit and other non direct cost elements or markups associated with the implementation phase. The appropriate negotiated mark-ups included in Schedule IDIQ-I of the contract will be applied to the negotiated implementation period price submitted for each PV/ECM delivery order project in the DO-II Schedule.

SCHEDULE IDIQ-V

**INDEFINITE DELIVERY/INDEFINITE QUANTITY CONTRACT
PERFORMANCE PERIOD PRICE ELEMENTS**

LISTED PERFORMANCE PERIOD PRICE ELEMENTS

Performance Period Price Elements include the DIRECT costs of all tasks required to maintain energy savings performance after Government acceptance of installed PV/ECMs. Price elements on this schedule include such items as direct costs for labor or subcontractor to operate, maintain, and repair installed PV/ECMs, measure and monitor PV/ECM equipment or system for periodic performance verification, project management costs to provide service support and other related costs incurred during the performance period, e.g. taxes, insurance. Price elements on this schedule do not include indirect costs, financing costs, or profit. They shall remain unchanged during the ordering period of this contract and be used for pricing delivery order project period expenses, identified on the DO-III Schedule.

SCHEDULE IDIQ-VI

[illegible]

Performance Period Mark-up Elements include all INDIRECT cost elements such as overhead and general & administrative expenses, profit and other non direct cost elements or markups associated with tasks required to manage and maintain energy savings performance after Government acceptance of installed PV/ECMs. The performance period mark-ups submitted in Schedule IDIQ-I will be applied to the performance period price for each PV/ECM delivery order project in the DO-III schedule.

CONTENTS

<u>Schedule No.</u>	<u>Title</u>
DO-Ia	Proposed Estimated Annual Cost Savings and Contractor Payments
DO-Ib	Guaranteed Annual Cost Savings, Annual Contractor Payments and Annual Cancellation Ceilings
DO-II	Proposed Implementation Period Investment for each Delivery Order Project PV/ECM
DO-III	Proposed Performance Period Cash Flow for Each Delivery Order Project PV/ECM
DO-IV	PV/ECM Descriptions and Projected Energy Savings/Energy Supplied Table

SCHEDULE DO-IA

PROPOSED ESTIMATED ANNUAL COST SAVINGS AND CONTRACTOR PAYMENTS

Contractor Name _____

The Contractor shall complete the following statement:

If selected, the Contractor shall complete the installation of all proposed PV/ECMs no later than _____ months after delivery order award.

Project Site:		
Year	(a) Estimated Annual Cost Savings \$	(b) Annual Contractor Payments \$
ONE		
TWO		
THREE		
FOUR		
FIVE		
SIX		
SEVEN		
EIGHT		
NINE		
TEN		
ELEVEN		
TWELVE		
THIRTEEN		
FOURTEEN		
FIFTEEN		
TOTALS		

The technical proposal supports the column (a) estimated annual cost savings as "REASONABLE." Column (b) represents the delivery order price and should be supported by information submitted in the other DO schedules and other supporting detail, as required by Section H.25.2 of the solicitation. The estimated annual cost savings from proposed installed PV/ECMs indicated in column (a) must exceed (by at least \$1), the annual contractor payments in column (b) above.

SCHEDULE DO-1b

ANNUAL COST SAVINGS AND CONTRACTOR PAYMENTS

Contractor Name: _____

The Contractor shall complete the following statement:

The Contractor shall complete the installation of all proposed PV/ECMs not later than _____ months after delivery order award.

Project Site:			
Year	(a) Detailed Energy Survey Annual Cost Savings \$	(b) Annual Contractor Payments \$	(c) Cancellation Ceiling \$
ONE			
TWO			
THREE			
FOUR			
FIVE			
SIX			
SEVEN			
EIGHT			
NINE			
TEN			
ELEVEN			
TWELVE			
THIRTEEN			
FOURTEEN			
FIFTEEN			
TOTALS			

The Guaranteed Annual Cost Savings in column (a) is based on achieving annual cost savings per the site-specific M&V plan agreed to in the delivery order. The total of the Annual Contractor Payments in column (b) represents the delivery order price and shall be supported by information submitted in all other DO schedules. The contractor guarantees the annual cost savings achieved from its installed PV/ECMs will exceed (by at least \$1) the annual contractor payments in columns (b) above. The Annual Cancellation Ceilings specified in column (c) establish the maximum termination liability in the event of contract cancellation or termination for convenience. (FAR 52.217-2 or 52.249-2 will apply.)

**PROPOSED IMPLEMENTATION PERIOD INVESTMENT
FOR EACH DELIVERY ORDER PROJECT PV/ECM**

[illegible]

The sum of the Average Annual O&M and Repair for all proposed PV/ECMs (Total of column (a)) should equal the total of these categories shown on Schedule DO-III divided by the years of the Performance Period.

SCHEDULE DO-III

**PROPOSED CONTRACTOR PERFORMANCE PERIOD CASH FLOW
FOR EACH DELIVERY ORDER PROJECT PV/ECM**

Contractor Name _____

Project Site:									
Project Capitalization									
Total Investment (DO-II Total)									
Financing Procurement Cost									
TOTAL CAPITAL REQUIRED									
Year	0	1	2	3	4	5	6	7	
Annual Cash Flow									
Debt Service:									
Interest									
Principal Repayment									
TOTAL DEBT SERVICE									
Performance Period Expenses:									
SUBTOTAL PERFORMANCE PERIOD EXPENSES									
Performance Period Mark-up									
TOTAL SERVICE PHASE EXPENSES									
Total Annual Contractor Payments									
(Total Debt Service + Total Service Expenses)									

The following information must be submitted to indicate the basis of the debt service included in this Schedule:

Total Finance Charge: _____

Tbill/T-Note Reference: Term (years) _____ Issue Date _____ Interest Rate (Index) _____

Source: _____

(e.g. Wall Street Journal, Web Site)

Project Site:									
Project Capitalization									
Year	8	9	10	11	12	13	14	15	
Annual Cash Flow									
Debt Service:									
Interest									
Principal Repayment									
TOTAL DEBT SERVICE									
Performance Period Expenses:									
SUBTOTAL PERFORMANCE PERIOD EXPENSES									
Performance Period Mark-up									
TOTAL SERVICE PHASE EXPENSES									
Total Annual Contractor Payments									
(Total Debt Service + Total Service Expenses)									

SCHEDULE DO-IV

PV/ECM DESCRIPTIONS AND PROJECTED ENERGY SAVINGS/ENERGY SUPPLIED TABLE

Contractor Name _____

Annual Energy Supplied and/or Saved									
No. PV System #	C.2.1 Category	Description - Title	(kWh, therms, etc.) Supplied	Equiv. Btu's	Demand Supplied (peak monthly)	Energy Dollar Savings	O&M or Other Savings	Total Savings	Simple PV payback
ECM No.	C.2.1 Category	Description - Title	kWh, therm, etc. Saved	Equiv. Btu's	Demand Reduction	Energy Dollar Saving	O&M or Other Savings	Total Savings	Simple ECM payback

Equiv Btu's - Use 1kWh = 3414 Btu

Annual Dollars Saved = Based on rate structure provided in solicitation or site data package and calculated energy and demand reductions

Simple Payback = Schedule DO-II Installation Price divided by Annual Dollars Saved

PV dollar savings = energy supplied by PV multiplied by the cost/unit of fuel offset by PV

For PV/ECM's with multiple energy type impacts show each impact on a separate line using the same PV/ECM No.

Fuel switching impacts should be treated the same by showing both the energy use increase and decrease

ANTICIPATED DELIVERY ORDER REPORTING REQUIREMENTS

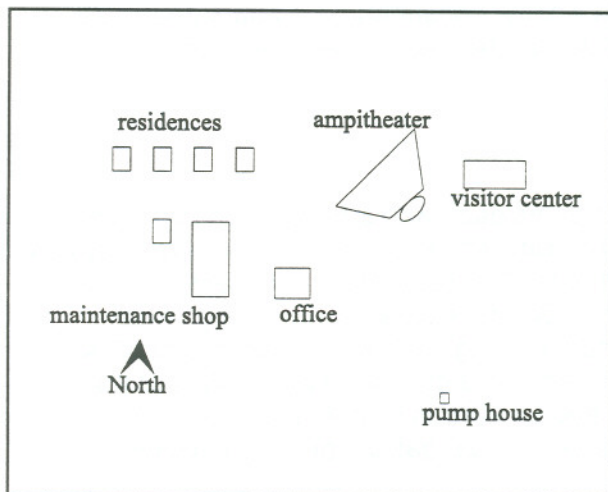
SCHEDULE OF DELIVERABLES FOR DELIVERY ORDERS					
Item	Description	Frequency	Due	Copies	Delivered to:
001	Certificate of Insurance	One time	15 days after award of delivery order	1	Contracting Officer for delivery order
	Performance Bond	One time	15 days after award of delivery order	1	Contracting Officer for delivery order
	Payment Bond	One time	15 days after award of delivery order	1	Contracting Officer for delivery order
002	Work Schedule	Monthly	10 days before work start	2	<ul style="list-style-type: none"> Contracting Officer for delivery order (1 copy) Contracting Officer's authorized representative for delivery order (1 copy)
003	Work - Outside Normal Hours	Per occurrence	5 days before work start	3	<ul style="list-style-type: none"> Contracting Officer for delivery order (1 copy) Contracting Officer's authorized representative for delivery order (2 copies)
004	PV/ECM Installation Plan	One time	Per delivery order and, again if additional ECMs are added through modification to the delivery order	5	<ul style="list-style-type: none"> Contracting Officer for delivery order (3 copies) Contracting Officer's authorized representative for delivery order (2 copies)
005	PV/ECM Installation Quality control Inspection Program	One time	With Item 005 above	5	<ul style="list-style-type: none"> Contracting Officer for delivery order (3 copies) Contracting Officer's authorized representative for delivery order (2 copies)
006	Notification of Utility Interruption	Per occurrence	20 working days prior to outage	3	<ul style="list-style-type: none"> Contracting Officer for delivery order (1 copy) Contracting Officer's authorized representative for delivery order (2 copies)
007	O&M Manuals	One time	With training class	6	<ul style="list-style-type: none"> Contracting Officer for delivery order (1 copy) Contracting Officer's authorized representative for delivery order (1 master for reproduction and 4 copies)
008	PV/ECM Performance Verification	Per PV/ECM	Upon ECM installation	5	<ul style="list-style-type: none"> Contracting Officer for delivery order (3 copies) Contracting Officer's authorized representative for delivery order (2 copies)
009	As-built Drawings	Per PV/ECM	90 days after Government's acceptance	3	<ul style="list-style-type: none"> Contracting Officer for delivery order (1 copy) Contracting Officer's authorized representative for delivery order (2 copies)
010	Annual Energy Audit for PV/ECM Performance	Annually	15 days after audit	5	<ul style="list-style-type: none"> Contracting Officer for delivery order (3 copies) Contracting Officer's authorized representative for delivery order (2 copies)

SITE TECHNICAL DATA PACKAGE (NARRATIVE PORTION)**HYPOTHETICAL FEDERAL PROJECT FOR EVALUATING CRITERION 3 OF PV SUPER ESPC PROPOSALS**

This document presents the photovoltaic power requirements for a hypothetical Federal facility. These requirements are used only to evaluate proposed solutions, and do not represent the actual requirements of any actual facility. These requirements are designed, however, to be typical of the type and scale of power requirements found at remote (without utility service) Federal facilities.

(1) DESCRIPTION OF FACILITIES

The hypothetical facility consists of a Visitor Center, a campground, five residences, a small office building, a maintenance shop, a pump house, and an amphitheater. All buildings were built in 1962, and the 4/12 pitched roofs were last replaced in 1989. The ridges of the visitor center and residences roofs run east-west while that of all other buildings run north-south. The buildings are masonry block construction with asphalt shingle roofs. Land directly to the south of the maintenance building is available for any new construction projects. The site is used year round. A plan of the site is illustrated in Figure 1. There is no electric or gas utility service to the site, with electric power supplied by diesel generators and heat supplied by propane furnaces, heat pumps and portable electric resistance heaters. The facility is located near Bakersfield, CA.

**Electrical System**

The site is served with electric power by two diesel generators, both installed in November of 1994. The generators are rated for single phase, 32 kW, 32 kVA or 3 phase 32 kW, 40 kVA, 240 Volts, 20 Amps. In 1995, new underground diesel fuel storage tanks were installed with secondary containment and cathodic protection. The generators are located inside the maintenance shop, in a room separated from the rest of the shops by a masonry block wall. Power is distributed in the site by underground distribution. Generator oil is changed every 250 hours of operation and

filters are replaced every 1000 hours of operation. Diesel fuel consumption is estimated at 39 gallons per day, based on typical annual consumption of about 14,220 gallons per year. The diesel fuel costs \$1.10/gallon delivered. The cost for oil and filters is estimated at \$1,450 per year for 400 quarts of oil and 9 filters. Labor requirements are estimated at 1 man-day per maintenance operation (260 hours/year at \$19/hour) for an estimated annual cost of \$4,950/year. Each generator is replaced every 6 years at a cost of about \$16,000 each. Thus, the total cost for power generation at the facility is about \$22,000 per year, plus the cost of periodic generator replacement. The average daily electrical energy consumption is estimated at 297 kWh in

Summer (May 1 to September 30) and 332 kWh/day in winter (October 1 to April 30) for an annual total of approximately 115,000 kWh/year.

Maintenance Building

The 2,500 square foot maintenance shop consists of a carpentry shop, a paint booth, and a plumbing shop, as well as an area for laundry and a room housing diesel generators. The building is operated from 8 am to 5 pm, Monday through Friday, with a peak occupancy of 10 and an average occupancy of 4 persons. The demand is estimated at 21 kW and the winter daily energy consumption at 90 kWh, while in summer the daily energy consumption is estimated at 88 kWh. Propane use in the maintenance building averages 2.9 gallons per day in winter with no propane use in summer.

Visitor Center

The 1,200 square foot visitor center consists of display area, bookstore, and small office. There are two heat sources, either of which is able to supply the heat load of the building. Heat is supplied by a 8.4 kw input heat pump, and also by a 90,000 btu input, 70,000 btu output furnace (rated for natural gas) fueled by a propane tank behind the visitor center. The building is supplied with both evaporative cooling and compression cooling (by the heat pump), the compressor motor is 15.3 RLA. The evaporator fan motor is 2.7 FLA and the condenser fan motor is 1.5 FLA. The evaporative cooler fan motor is 0.5 FLA. The demand is estimated at 10 kW and the winter daily energy consumption at 80 kWh, while in summer daily energy consumption is estimated at 29 kWh. Propane use at the visitor center averages 2.9 gallons per day in the winter, with no propane use in the summer.

Residences

Each 1,500 square foot residence consists of two bedrooms each with a private bathroom and a common kitchen and dining area and a living room. The residences are typically occupied by two people, but may also house a family with children. All of the five residences are identical. The residences are also supplied with both evaporative and compression air conditioning. The starting current for one of the 240 Volt residential air conditioning units was measured at 89 A peak, with a 22 A rms value. For each residence, the demand is estimated at 13 kW and the daily energy consumption estimated at 32 kWh in summer and 28 kWh in winter. Propane use for each residences averages 0.9 gallons per day in summer and 3.8 gallons per day in winter.

Office

The 1,000 square foot office is operated from 8 am to 5 pm, Monday through Friday, with a peak occupancy of 6 and an average occupancy of 2 persons. The office is cooled by evaporative cooling. Estimated demand is 3 kW in winter and 4 kW in summer, and estimated daily energy consumption is 13 kWh/day in winter and 15 kWh/day in summer. Propane use averages 2.9 gallons per day in winter with no propane use in summer.

Campground

Power is supplied for exterior lighting of the campground. There are four pole mounted lamps, each with a 100W incandescent light bulb. The estimated demand is 1.6 kW and average daily energy consumption is 3.5 kWh.

Amphitheater

The amphitheater is served by the campground feeder and power is used periodically to power portable audio-visual equipment, lighting, and other special uses. There are two electric outlets and ten lighting fixtures, each with one 100 W incandescent light bulb. Estimated monthly energy consumption ranges from 4 kWh/month to 22 kWh/month. Average daily energy consumption when the amphitheatre is in use is estimated at 2.6 kWh/day.

Pump house

The pump house contains a pump and diesel engine. No electric power is supplied to the pump house. Water is pumped from the 150 foot deep well to a 10,000 gallon storage tank located at an elevation of 60 feet above the wellhead and a distance of one mile from the well head. The pipe diameter is 4 inches. The water level in the well drops from 100 feet to 120 feet when pumping at 10 gallons per minute. The 5 gallon tank on the engine is filled daily and allowed to pump water until the fuel tank is empty. Water consumption is estimated at 3000 gallons per day.

(2) SPECIFIC PV EQUIPMENT REQUIREMENTS

The site proposal shall provide for high quality PV system components which meet the standards outlined below. PV system components shall meet or exceed all of the requirements and specifications, as well as economic and performance criteria established for the system application.

General Requirements

An entire PV system designed to require regular maintenance and inspection no more frequently than once every six months.

All of the components proposed shall have a proven record of reliable performance in similar applications.

All PV systems and their components proposed shall be protected from any anticipated failures. Such possible failures could include electrical surges (array or lighting caused), over depletion of battery energy, overloading of generators, and any other predictable problems.

Inclusion in proposal of realistic estimate of the life of each component as substantiated by component warranties and an approximate replacement schedule.

Proposal must be of commercially available, off-the-shelf components.

Climatic Considerations

PV systems proposed, including the equipment enclosure, PV array, and array mount, shall be able to withstand maximum winds of 90 mph.

(3) SPECIFIC PV MODULE REQUIREMENTS

The modules proposed shall be commercially available and meet JPL Block V specifications.

The modules proposed shall be designed for a minimum operational life of twenty years.

(4) PV Array & Mounting Structure Requirements

The mounting structure proposed shall hold the bottom of the array a minimum of thirty-six (36) inches above the ground to minimize shading from snow accumulations and vegetation.

The mounting structure proposed shall provide extra attachment points for tie down guy wires for use of the system in more extreme wind conditions.

(5) Wiring Requirements

Conductors proposed shall be sized to keep voltage losses to less than 5% and an estimation of losses shall be stated.

(6) Battery Storage Requirements

The battery bank proposed shall be sized to supply a minimum of 10 days of daily energy requirements to the load at a minimum outdoor temperature of -20°F, a discharge rate of C/20, and the maximum depth-of-discharge recommended by the battery manufacturer.

The proposed battery bank shall be mounted in racks and trays rated for use in seismic zone 4 and enclosed in a battery box with adequate ventilation.

The proposed battery materials shall be stated as being fully recyclable by the manufacturer to minimize disposal problems at the end of their useful life.

(7) Inverter Requirements

The proposed inverter shall contain internal circuitry to protect the interter from high battery voltage, low battery voltage, high instantaneous current, and extended over-current. The inverter or charge controller shall provide load compensated over-discharge protection for the batteries.

(8) Battery Charge Controller Requirements

A charge controller shall be proposed to prevent overcharging of the battery bank. The proposed charge controller shall be able to function properly in the temperature extremes experienced at the installation site, and the battery charging functions shall be temperature compensated.

(9) Monitoring and Control Equipment Requirements

This proposed system shall include monitoring and control equipment installed.

The proposed system shall have access points for utility testing and monitoring within the enclosure. These access points shall include: battery voltage; battery current; array voltage; and array current.

(10) Water Pumping Equipment Requirements

The proposed pump controller shall have automatic pump wake-up and shut-down.

SITE TECHNICAL DATA PACKAGE (TABLES PORTION)

Typical Information Formatting

LEVEL	Level of Information	Facility Information	Energy Usage Information	Operational Information
1	Site -Whole Facility Information	Name, Address, Agency, Contact, Use Name, Size, Age, Floors,Use, Type of		L1-Utility Rate Info, L1 Utility Bills Building Level energy consumption
	Schedule-Occupancy, production	Energy Systems		schedules
2	Building			
3	Energy Consuming System	Type of System	End-use data, energy consumption	End-use profiles, control data
4	Components	Type of equipment, part name/model #, number of pieces, location,nameplate energy consumption data		Equipment energy consumption
	End-use data, control data			

Worksheets in This Workbook

L1 - Facility Information
L1 - Energy Usage Information

L2 - Building Information

L2 - Building Operational Info

L3 - Energy Consuming Systems

L1 - Facility Information

FEMP SuperEnergy Saver - Standard Data Format**Facility and Site Information**

INPUT

Facility Name	Camp FEMP
Agency	
Address	
City, State, Zip Code	

Primary Facility Contact	
Phone Number	

Average Heating Degree Days(65F)	2182
Average Cooling Degree Days (65 F)	2365

Number of Buildings	11
Gross Facility Floor Area (sqft.)	12320
Conditioned Floor Area (sqft.)	12200

General Facility/Site Purpose	Visitor Center and Campground
-------------------------------	-------------------------------

Total Facility/Site Occupancy	30
-------------------------------	----

L1 - Energy Usage Information

FEMP SuperEnergy Saver - Standard Data Format				
Energy Usage Information				
Diesel Fuel used to Generate Electricity				
Diesel Fuel Supplier		Propane Fuel Supplier		
Fuel Supplier Name		Fuel Supplier Name		
Address		Address		
Phone Number		Phone Number		
Account Number		Account Number		
Rate Code		Rate Code		
Diesel Fuel Use Profile		Propane Fuel Use Profile		
Average Annual Usage:	14220 (gallons/year)	Average Annual Usage:	2441 (gallons/year)	
Average Annual Cost:	1.1 (\$/gallon)	Average Annual Cost:	\$2,441 (\$/gallon)	
Cost per delivery	0 (\$/trip)	Cost per delivery	0 (\$/trip)	
Number of deliveries per year	15	Number of deliveries per year	6	
Generator Information				
Number of Generators	2			
Brand Name and Model	Onan 35DGBB			
Rated Capacity	32 (kW)			
Year Built/Expected Life	1994/ 6 years (years)			
Hours Cycled ON/OFF Gen1	168 on 168 off			
Gen.2	168 off 168 on			
Operated at % of Capacity	41%			
Electricity Generated per year	115000 (kWh/yr)			
Size of Fuel Storage Tank	1,000 (gallons)			
Age and condition of tank	new, good			
Hours of maint. Labor/ year	260 (hours)			
Labor Cost	19 (\$/hour)			
Cost of Supplies per year	1,450 (\$/year)			
Diesel Fuel used for non-generator loads				
Load	Usage			
	(gallons/year)			
	(gallons/year)			
	(gallons/year)			
	(gallons/year)			

L2 - Building Information

FEMP SuperEnergy Saver - Standard Data Format**Building Information (building totals should flow up to L1 values as appropriate)****General Information**

Building Name	Building Age	Use/Purpose	Floor Area (sqft)	Primary Lighting Type	Primary HVAC Type
vistor Center	30	retail, contact	1200	fluor	AC/ propane furnace
Maintenance	30	shop	2500	flourescent	evap/propane
Residence	30	housing	1500	incand	AC/propane furnace
Office	30	office	1000	fluor	evap/propane
Campground					
Amphitheatre					
Pumphouse	30	equipment	100	incand	none

Shell and Conditioned Space Information

Building Name	Construction Type	Roof Area (sqft)	Exposed Above Grade Wall (sqft)	Glazing Area (sqft)	Wall Insulation	Glazing Type	Gross Conditioned Area (sqft)
vistor Center	Frame	1200	1100	200	R-11	single	1200
Maintenance	Frame	2500	1600	100	R-11	single	2500
Residence	Frame	1500	1200	120	R-11	single	1500
Office	Frame	1000	1000	50	R-11	single	1000
Campground							
Amphitheatre							
Pumphouse	Masonry block	100		0	0		0

L2 - Building Operational Info

FEMP SuperEnergy Saver - Standard Data Format

0

Building Operational Data

Building Use Schedules (complete one table for each building and season as needed)

Building Name	Visitor Center								
Season	summer								
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	8	8	8	8	8	8	8	8	8
Hour Closed	17	17	17	17	17	17	17	17	17
Peak Occupants	10	10	10	10	10	10	10	10	10
Avg. Occupants	4	4	4	4	4	4	4	4	4
Avg. Open Hours per Week	63								

Building Operational Data

Building Use Schedules (complete one table for each building and season as needed)

Building Name	Visitor Center								
Season	winter								
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	8	8	8	8	8	8	8	8	8
Hour Closed	17	17	17	17	17	17	17	17	17
Peak Occupants	10	10	10	10	10	10	10	10	10
Avg. Occupants	4	4	4	4	4	4	4	4	4
Avg. Open Hours per Week	63								

Building Name	Maintenance								
Season	summer								
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	8	8	8	8	8	0	0	0	0
Hour Closed	17	17	17	17	17	0	0	0	0
Peak Occupants	10	10	10	10	10	0	0	0	0
Avg. Occupants	4	4	4	4	4	0	0	0	0
Avg. Open Hours per Week	45								

Building Name	Maintenance								
Season	winter								
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	8	8	8	8	8	0	0	0	0
Hour Closed	17	17	17	17	17	0	0	0	0
Peak Occupants	10	10	10	10	10	0	0	0	0
Avg. Occupants	4	4	4	4	4	0	0	0	0
Avg. Open Hours per Week	45								

Building Name	Residence								
Season	summer								
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	1	1	1	1	1	1	1	1	1
Hour Closed	24	24	24	24	24	24	24	24	24
Peak Occupants	8	8	8	8	8	8	8	8	8
Avg. Occupants	2	2	2	2	2	2	2	2	2
Avg. Open Hours per Week	168								

Building Name	Residence								
Season	winter								
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	1	1	1	1	1	1	1	1	1
Hour Closed	24	24	24	24	24	24	24	24	24
Peak Occupants	8	8	8	8	8	8	8	8	8
Avg. Occupants	2	2	2	2	2	2	2	2	2
Avg. Open Hours per Week	168								

Building Name	Office								
Season	summer								
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	8	8	8	8	8	0	0	0	0
Hour Closed	17	17	17	17	17	0	0	0	0
Peak Occupants	6	6	6	6	6	0	0	0	0
Avg. Occupants	2	2	2	2	2	0	0	0	0
Avg. Open Hours per Week	45								

Building Name	Office								
Season	winter								
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	8	8	8	8	8	0	0	0	0
Hour Closed	17	17	17	17	17	0	0	0	0
Peak Occupants	6	6	6	6	6	0	0	0	0
Avg. Occupants	2	2	2	2	2	0	0	0	0
Avg. Open Hours per Week	45								

Building Name	Campground								
Season	summer								
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	1	1	1	1	1	1	1	1	1
Hour Closed	24	24	24	24	24	24	24	24	24
Peak Occupants	10	10	10	10	10	10	10	10	10
Avg. Occupants	3	3	3	3	3	3	3	3	3
Avg. Open Hours per Week	168								

Building Name	Campground								
Season	winter								
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	1	1	1	1	1	1	1	1	1
Hour Closed	24	24	24	24	24	24	24	24	24
Peak Occupants	10	10	10	10	10	10	10	10	10
Avg. Occupants	3	3	3	3	3	3	3	3	3
Avg. Open Hours per Week	168								

Building Name	Amphitheatre
Season	summer
	M
Hour Open	0
Hour Closed	0
Peak Occupants	0
Avg. Occupants	0
Avg. Open	6
Hours per Week	

Building Name	Amphitheatre							
Season	winter							
Days	M	T	W	Th	F	Sat	Sun	Holiday
Hour Open	0	0	0	0	0	0	0	0
Hour Closed	0	0	0	0	0	0	0	0
Peak Occupants	0	0	0	0	0	0	0	0
Avg. Occupants	0	0	0	0	0	0	0	0
Avg. Open	0							
Hours per Week								

Building Name	Pump House								
Season	summer								
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	0	0	0	0	0	0	0	0	
Hour Closed	0	0	0	0	0	0	0	0	
Peak Occupants	0	0	0	0	0	0	0	0	
Avg. Occupants	0	0	0	0	0	0	0	0	
Avg. Open Hours per Week	0								

Building Name									
Season									
Days	M	T	W	Th	F	Sat	Sun	Holiday	
Hour Open	0	0	0	0	0	0	0	0	
Hour Closed	0	0	0	0	0	0	0	0	
Peak Occupants	0	0	0	0	0	0	0	0	
Avg. Occupants	0	0	0	0	0	0	0	0	
Avg. Open	0								
Hours per Week									

L3 - Energy Consuming Systems

FEMP SuperEnergy Saver - Standard Data Format

Energy Consuming Systems

Summer is May 1 to September 30

Winter is October 1 to April 30

Electrical Systems

Building		Visitor Center						
Item	Number of units	% Usage	System Type/Description	Load per Unit (W)	Summer Hours per day	Winter Hours per day	Summer days per week	Winter Days per week
Outside Lights	3	100	15 W compact fluorescent,	15	8	9	7	7
Outside Lights	3	100	75 Watt incandescent A-19 lamps	75	8	9	7	7
Outside Lights	2	100	150 Watt Reflector incandescent	150	8	9	7	7
Indoor lights	5	80	3-lamp fluorescent industrial fixtures	130	9	9	7	7
Exhaust fan	2	50	250 W fan motor	250	1	1	7	7
Heat Pump	1	100	Unitary heat pump, compressor	8400	1	8	1	7
Evap Cooler	1	100	Evaporative cooler fan motor , 1.5	876	9	0	7	1
Cash Registers	2	100	electronic cash registers	34	9	9	7	7
Radio Base Unit	1	100	12 V radio powered by transformer	30	24	24	7	7
Computer	1	100	Desktop PC, monitor, printer	120	1	1	7	7
Coffee Maker	2	50	Drip coffee maker with warming pad	600	1	1	7	7
Vacuum Cleaner	1	100	upright vacuum cleaner	840	0.25	0.25	1	1
Battery Charger	1	100	radio battery charger	35	24	24	7	7

Building		Maintenance						
Item	Number of units	% Usage	System Type/Description	Load per Unit (W)	Summer Hours per day	Winter Hours per day	Summer days per week	Winter Days per week
Office								
Outside Lights	1	100	30 W compact fluorescent,	30	8	9	7	7
Indoor lights	2	100	2-lamp fluorescent industrial fixtures	90	3	3	5	5
Floor Heater	1	100	1500 W electric heater	1500	0	3	5	5
Ceiling Heater	1	100	1250 W electric heater	1250	0	1	5	5
Evap Cooler	1	100	Evaporative cooler fan motor , 1.5	876	3	0	5	5
Refrigerator	1	100	upright refrigerator	450	8	8	7	7
Radio Base Unit	1	100	12 V radio powered by transformer	30	24	24	7	7
Computer	1	100	Desktop PC, monitor, printer	600	1	1	7	7
Water cooler	1	100	water cooler	744	8	8	7	7
Battery Charger	1	100	radio battery charger	35	24	24	7	7
Generator Room								
Ceiling lights	5	100	200 W incandescent	200	0.5	0.75	1	1
Day Use Pump	1	100	pump for filling day tank	792	0.17	0.17	1	1
Battery Charger	1	100	Battery Charger	2640	0.5	0.5	7	7
Fan	1	100	Electric Fan	396	0.25	0.25	5	5
Leak Sensor	1	100	deisel fuel leak sensor	1200	24	24	7	7
Teal filter	1	100	filter	312	24	24	7	7
Fuel Pump	1	100	unleaded fuel pump	560	0.17	0.17	7	7
Fuel pump	1	100	deisel fuel pump	560	0.17	0.17	7	7
Carpentry Shop								
Ceiling lights	7	100	2-lamp fluorescent industrial fixtures	90	3	3	5	5
Outside Lights	3	100	100 w incandescent	100	8	10	7	7
Radial arm saw	1	100	radial arm saw	2040	0.25	0.25	1	
Table Saw	1	100	table saw, 120 V,	2640	0.5	0.5	1	
Drill Press	1	100	drill press, 120 V	1440	0.25	0.25	5	5
Grinder	1	100	grinder, 120V	1560	0.25	0.25	1	1
Sander	1	100	sander, 120 V	1260	0.25	0.25	1	1

Router	1	100	router, 120 V	192	0.17	0.17	5	5
vac cleaner	1	100	shop vacuum cleaner	780	0.17	0.17	5	5
Painting Shop								
Ceiling lights	6	100	2-lamp fluorescent industrial fixtures	90	3	3	5	5
Outside Lights	2	100	75 W incandescent	75	8	10	7	7
Bench Grinder	1	100	bench grinder	396	0.17	0.17	1	1
Evap cooler	1	100	Evaporative cooler fan motor , 1.5	900	3	0	5	5
air compressor	1	100	air compressor	1632	0.25	0.25	1	1
water heater	1	100	4500 W electric water heater	4500	2	2	7	7
washer	1	100	clothes washer, 2 loads per day	600	0.83	0.83	5	5
dryer	1	100	electric clothes dryer, 2 loads per	8000	1.5	1.5	5	5

Building Residence

Item	Number of units	% Usage	System Type/Description	Load per Unit (W)	Summer Hours per day	Winter Hours per day	Summer days per week	Winter Days per week
Outside Lights	3	100	75 W incandescent	75	8	9	7	7
Indoor lights	11	100	75 W Incandescent	75	4	6	7	7
Floor lamps	4	50	75 W incandescent	75	4	4	7	7
washer	1	100	clothes washer, 1 load per week	600	0.83	0.83	1	1
dryer	1	100	electric clothes dryer, 1 load per	8000	1.5	1.5	1	1
Evap Cooler	1	100	Evaporative cooler fan motor , 1.5	876	6	0	7	0
Refrigerator	1	100	upright refrigerator	450	8	8	7	7
Radio Base Unit	1	100	12 V radio powered by transformer	30	24	24	7	7
TV	1	100	TV	300	4	4	7	7
Dish Washer	1	100	dish washer with booster	1500	1	1	2	2
Door Bell	1	100	doorbell transformer	20	24	24	7	7
B: arger	1	100	radio battery charger	35	24	24	7	7

Building Office

Item	Number of units	% Usage	System Type/Description	Load per Unit (W)	Summer Hours per day	Winter Hours per day	Summer days per week	Winter Days per week
Outside Lights	1	100	75 W incandescent	75	8	9	7	7
Indoor lights	6	100	2-lamp fluorescent industrial fixtures	90	9	9	5	5
Radio Base Unit	1	100	12 V radio powered by transformer	30	24	24	7	7
Typewriter	1	100	typewriter	70	1	1	5	5
Laser Printer	1	100	laser printer	770	1	1	5	5
Computer	1	100	computer	600	4	4	5	5
Copier	1	100	copier	1440	2	2	5	5
Evaporative Cooler	1	100	evap cooler	876	2	0	5	0
Battery Charger	1	100	radio battery charger	35	24	24	7	7

Building Campground

Item	Number of units	% Usage	System Type/Description	Load per Unit (W)	Summer Hours per day	Winter Hours per day	Summer days per week	Winter Days per week
Outside Lights	4	100	100 W incandescent	100	8	9	7	7

Building Amphitheatre

Item	Number of units	% Usage	System Type/Description	Load per Unit (W)	Summer Hours per day	Winter Hours per day	Summer days per week	Winter Days per week
Projector	1	100	projector	300	2	2	1	1
Outside Lights	10	100	100 W incandescent	100	2	2	1	1

Propane Gas Systems

Building	System Type/Description	Avg. Input Load (kBTL/hr)	Summer Hours per day	Winter Hours per day	Summer days per week	Winter Days per week
Visitor Center	Forced air furnace 90 kbtu in 70 kbtu out.	90	0	3	0	7
Residence	Stove/oven	40	1	1	7	7
Residence	Forced air furnace 90 kbtu in 70 kbtu out.	90	0	3	0	7
Residence	Water Heater	40	1	1	7	7
Maintenance	Forced Air Propane Furnace	90	0	3	0	5
Office	Forced Air Propane Furnace	90	0	3	0	5